

University of Groningen

Microbial dynamics in subgingival biofilms

Zijnga, Vincent

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2010

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Zijnga, V. (2010). *Microbial dynamics in subgingival biofilms*. s.n.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Microbial dynamics in subgingival biofilms

ISBN/EAN

978-90-75115-58-1

Printing

Printed by Scholma Druk, Bedum, The Netherlands

Vormgeving

M. Velten

Copyright

All rights reserved. No parts of this publication may be reproduced or transmitted in any form or by any means without the permission of the author and the publisher holding the copyright of the published articles.

RIJKSUNIVERSITEIT GRONINGEN

**Microbial dynamics
in
subgingival biofilms**

Proefschrift

ter verkrijging van het doctoraat in de
Medische Wetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
Rector Magnificus, dr. F Zwarts,
in het openbaar te verdedigen op
woensdag 21 april 2010
om 13.15 uur

door

Vincent Zijnga

geboren op 20 oktober 1976
te Maassluis

Promotores: Prof. dr. F Abbas
Prof. dr. JE Degener

Copromotor: Dr. Ir. HJM Harmsen

Beoordelingscommissie: Prof. dr. AJ van Winkelhoff
Prof. dr. HC van der Mei
Prof. dr. R Gmür

Paranimfen: Ronny Koeling
Stefan Vegter

To Frank the eloquent professor, your ability to demand quality in a friends' way and to end a discussion with laughter was my motivation button to push!

To John, the professor who emphasized the beauty of a thesis that combines basic with clinical research and who appreciated my humble 'Goedemorgen Professor!' so much.

To Hermie my friend, for your enthusiasm, support and widely applicable lessons in observation.

Publication of this thesis was financially supported by LabOral, Philips Sonicare, Dr. G.J. van Hoytema Stichting, Nederlandse vereniging voor Microbiologie and Tandartsenpraktijk De Jong. Their contribution is greatly appreciated.

Lab**Oral**[®]

PHILIPS
sonicare
the sonic toothbrush



Tandartsenpraktijk
de Jong

Beilerstraat 179

9401 PJ Assen

Tel.: 0592-317570

Spedlijn: 0592-302430

ABN-AMRO: 47.76.96.600

CONTENTS

Chapter 1	General introduction	9
Chapter 2	Denaturing gradient gel electrophoresis analysis to study bacterial community structure in pockets of periodontitis patients	25
Chapter 3	Denaturing gradient gel electrophoresis as a diagnostic tool in periodontal microbiology	41
Chapter 4	Microbial population dynamics of subgingival pockets after mechanical scaling and root planing	59
Chapter 5	Oral biofilm architecture on natural teeth	79
Chapter 6	The recolonization hypothesis in a full-mouth or quadrant-wise treatment protocol; a blinded, randomised clinical trial	99
Chapter 7	General discussion	119
Chapter 8	Summary	129
Chapter 9	Samenvatting	135
Chapter 10	Reference list	141

